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Why do we CLASSIFY?

Organization of groups

Naming

Study organisms + diversity

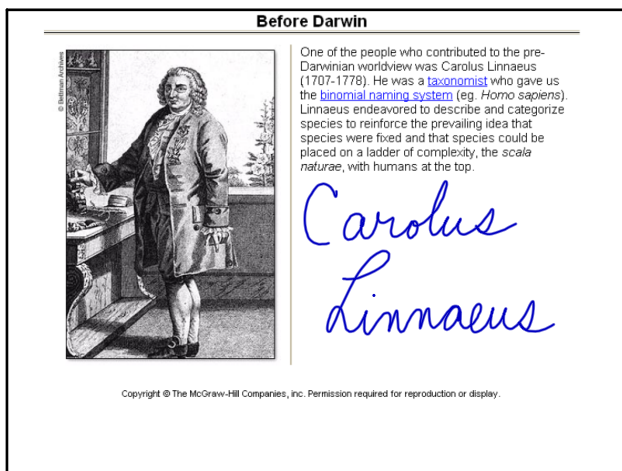
What is TAXONOMY?

Science of classifying organisms.

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Organisms that can reproduce naturally and produce viable offsprings. These organisms tend to share similar physical characteristics.

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Carl von Linné (Carolus Linnaeus)

Binomial Nomenclature

- 1st name: Genus
- 2nd name: species

Latin
Italics

↑ Capital letter

(Homo) sapiens
Homo erectus

Dog (Canis domesticus) ✓
wolf (Canis lupus)
coyote (Canis latrans)

Escherichia coli
E. coli

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Hierarchy of classification: 7 taxons (levels of classification)

Kingdom

Phylum

Class

Order

Family

Genus

Species

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	Human	Dog	Cat
Kingdom			
Phylum			
Class			
Order			
Family			
Genus			
Species			

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Modern Evolutionary Classification

Which Similarities are Most Important?

Evolutionary Classification

Classification using Cladograms

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Similarities in DNA and RNA

Molecular Clocks

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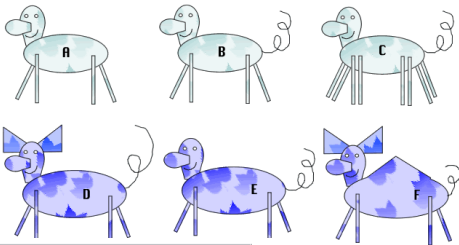
Dichotomous Key

A dichotomous key is a written set of **two** choices that lead to the identification of an organism. A dichotomous key is based on the specific characteristics.

Scientists use these to identify unknown organisms. Building a dichotomous key helps biologists to study organisms closely.

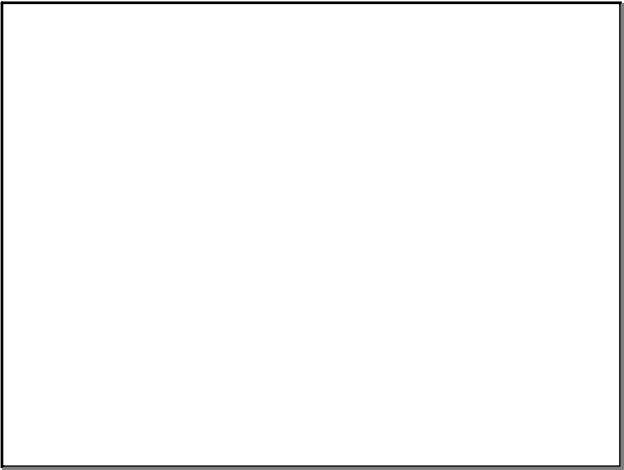
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Consider the following animals. They are all related, but each is a separate species. Use the dichotomous key below to determine the species of each.



- | | |
|----|---|
| 1. | Has green colored bodygo to 2 |
| | Has purple colored body go to 4 |
| 2. | Has 4 legsgo to 3 |
| | Has 8 legs <i>Deerus octagis</i> |
| 3. | Has a tail <i>Deerus pestis</i> |
| | Does not have a tail <i>Deerus magnus</i> |
| 4. | Has a pointy hump <i>Deerus humpis</i> |
| | Does not have a pointy humpgo to 5 |
| 5. | Has ears <i>Deerus purplinis</i> |
| | Does not have ears <i>Deerus deafus</i> |

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